



Air Force Research Laboratory|AFRL

Science and Technology for Tomorrow's Air and Space Force

Success Story

IMPROVED LASER EYE PROTECTION RECEIVES SAFE-TO-FLY RECOMMENDATION



Newly developed laser eye protection (LEP) stops a second visible threat wavelength to operational aircrews in addition to the far red and wide band near-infrared laser protection provided by previously fielded LEP.



Air Force Research Laboratory
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Accomplishment

The Human Effectiveness Directorate Directed Energy Bioeffects Division's LEP Team rapidly responded to an immediate operational need from the Air Combat Command Vice Commander (ACC/CV) to provide time-critical data, data analysis, and conclusions critical to obtain an unrestricted safe-to-fly (STF) recommendation for new, more capable LEP devices for the warfighter. The LEP team's quick response resulted in a provisional STF recommendation within a month and an unrestricted STF within 4 months of an ACC/CV tasking.

Background

In August 2002, ACC identified an immediate need to expedite laser protection for aircrew and sensors. After presenting various options, ACC asked the directorate to accelerate ACC and Air Mobility Command aircrew evaluations of an improved LEP designed, developed, and demonstrated by the directorate. The improved LEP provides protection from a second visible threat wavelength.

ACC selected two formats for accelerated evaluations: (1) conventional spectacles for aircrew not requiring vision correction, and (2) clip-on articles for wear over aircrew issue spectacles for those who do require vision correction.

Within 1 month after receiving the go-ahead from ACC, the directorate's military and contractor team collated, analyzed, and delivered results of laboratory data on physical, optical, and human visual performance of "Block 0+" LEP, an enhanced version of the current Block 0 LEP, to the 311 Human Systems Wing (HSW) Program Office in support of a provisional safe-to-fly recommendation. The scientific data was of such quality that the 311 HSW immediately issued a provisional STF recommendation for wear of Block 0+ LEP while they accomplished final aircrew in-flight evaluations.

Then, the directorate's contractor and government team accomplished final simulator, ground, and in-flight evaluations of Block 0+ LEP with C-17 and F-15E aircrews and provided the final data package and analysis to the 311th HSW. The C-17 and F-15E aircrews of the 437th and 315th Airlift Wing and the 4th Fighter Wing most frequently rated Block 0+ LEP either "highly" or "very highly" acceptable and never "unsafe to fly."

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (03-HE-19)